

REMARKS/ARGUMENTS

This Amendment is in response to the Final Office Action dated March 23, 2005. Claims 1-47 are pending in the present application. Claims 1-47 have been rejected. Claims 1, 10, 20, and 32-47 have been amended to further define the scope and novelty of the present invention, as well as to correct typographical and grammatical errors. Support for the amendments to the claims is found throughout the specification, and in particular, in Figures 5 and 6, and on page 9, line 9-17. Applicants respectfully submit that no new matter has been presented. Accordingly, claims 1-47 remain pending. For the reasons set forth more fully below, Applicants respectfully submit that the claims as presented are allowable. Consequently, reconsideration, allowance, and passage to issue are respectfully requested.

In the event, however, that the Examiner is not persuaded by Applicants' amendments and arguments, Applicants respectfully request that the Examiner enter the amendments and arguments to clarify issues upon appeal.

Claim Rejections - 35 U.S.C. §102

The Examiner has stated:

Claims 1-3, 10, 11, 20, 21, 32-34, 40-42, 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Callendrier (US Patent 6,122,978).

Regarding claims 1, 10, 20, 32 - 34, 40-42, 46 and 47, Callendrier teaches an apparatus and method comprising a mounting arrangement (Column 5, Lines 36-40 and Figure 2) and at least one cantilevered roller shaft (20) comprises a distal end and a proximal end for advancing a document (10), wherein the proximal end is coupled to the frame of such that the distal end floats (As shown in Figure 1) and the at least one cantilevered roller shaft is supported only at one end (Figure 1).

Regarding claims 3, 11, and 21, Matsuda et al. teaches an apparatus and method, wherein a need for a rigid frame that directly supports the unsupported end is eliminated (Figure 1).

Applicants respectfully traverse the Examiner's rejections. The present invention provides a document feeder device. The document feeder device includes a frame and at least one cantilevered roller shaft for advancing a document, where an unsupported end of the at least one cantilevered roller shaft floats, a bearing coupled to the at least one cantilevered roller shaft, and a spring coupled to the frame and the bearing. The document feeder device eliminates the need for a rigid frame to support the unsupported end. This decreases the cost of production by eliminating the need for additional frame hardware and/or more rigid frame hardware. (Abstract.) Callendrier does not teach or suggest these features, as discussed below.

Callendrier discloses a moving web tension monitoring apparatus of easily fabricated, relatively inexpensive and easily assembled construction including a cantilever mounted strain beam element coupled at the flexurable end thereof through a rigid coupling to one end of the support shaft for the web supporting guide roll. A twin beam type transducer having strain gauges at the flex points of the beams is coupled to the shaft supporting the moving web. The strain gauges are located and electrically connected to measure the radial forces applied to the shaft by the web, independently of the length of the shaft. (Abstract).

However, Callendrier does not teach or suggest the combination of the "at least one cantilevered roller shaft for advancing a document, wherein the at least one cantilevered roller shaft is supported only at one end," the "bearing coupled to the at least one cantilevered roller shaft," and the "spring coupled to the frame and the bearing," as recited in amended independent claim 1. Instead, Callendrier teaches a shaft that is supported by "plates" 30 and 32 and "arms" 34 and 36 that are "mounted within a cylindrical hollow interior or open end chamber 40 of a cup-shaped base or housing 42." This housing is mounted on the frame 12. (Figure 2 and

column 4, lines 54-65.) Referring to Figures 5 and 6 of the present invention, only one end 107 of the cantilevered roller shaft 106 is supported, and it is supported by the combination of the frame, the bearing, and the spring, as recited in the present invention. As such, the rest of the at least one cantilevered roller shaft floats, yet is supported reliably. In contrast to the present invention, referring to Figure 2 of Matsuda, numerous pieces (e.g. plates, arms, and the chamber) are required, and all of these pieces must be welded, bolted, or screwed together in order to support the shaft 20. The support components of Callendrier are clearly different from the support components as claimed in the present invention, because the support components of Callendrier are more numerous and more complicated to assemble.

Therefore, Callendrier does not teach or suggest the present invention as recited in amended independent claim 1, and this claim is allowable over Callendrier.

Independent claims 10, 20, 32, and 40

Similar to amended independent claim 1, amended independent claims 10 and 20 recite the combination of “at least one cantilevered roller shaft,” “a bearing coupled to the at least one cantilevered roller shaft,” and “a spring coupled to the frame and the bearing.” Similarly, amended independent claim 32 recites the combination of “coupling only a supported end of the at least one cantilevered roller shaft,” “coupling a bearing to the at least one cantilevered roller shaft,” and “coupling a spring to the frame and the bearing.” Similarly, amended independent claim 40 recites “coupling only the proximal end to a frame of the printer such that the distal end floats,” “coupling a bearing to the at least one cantilevered roller shaft,” and “coupling a spring to the frame and the bearing.” As described above, with respect to amended independent claim 1,

Callendrier does not teach or suggest these features. Accordingly, the above-articulated arguments related to amended independent claim 1 apply with equal force to claims 10, 20, 32, and 40. Therefore, claims 10, 20, 32, and 40 are allowable over Callendrier for at least the same reasons as claim 1.

Claim Rejections - 35 U.S.C. §103

The Examiner has stated:

Claims 2, 5-9, 12, 14-17, 19, 22, 24-28, 30, 31, 35-39 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callendrier (US Patent 6,122,978) in view of Matsuda et al. (US Patent 2002/0020959)

Regarding claims 2, 6, 7, 8, 12, 15-17, 22, 26-28, and 43-45, Callendrier teaches the claimed invention and method with the exception of a supported end of the at least one cantilevered roller shaft is supported at two support locations located outside a document path, wherein the document can be appropriately fed and a second cantilevered roller shaft coupled to a frame and wherein a second unsupported end of the second cantilever roller supported at two support locations located outside a document path, wherein the document can be appropriately fed.

Matsuda et al. teaches an apparatus and method, wherein a supported end of the at least one cantilevered roller shaft is supported at two support locations (shaft is supported at main body 5 and supported at plate 9) located outside a document path, wherein the document can be appropriately fed and a second cantilevered roller shaft (7 and Page 3, Paragraph 0052) coupled to the frame (5) and supported at two support locations (shaft is supported at main body 5 and supported at plate 9) located outside a document path, wherein the document can be appropriately fed.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention as taught by Callendrier to include a cantilever roller supported at two locations and a second cantilever roller as taught by Matsuda et al., since Matsuda et al. teaches that it is advantageous to provide a stable feeding device...

Claims 4,13, 18,23 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callendrier (US Patent 6,122,978) in view of Matsuda et al. (US Patent 2002/0020959) as applied to claim 1,10 and 20 above, and further in view of Applicant Admitted Prior Art (“AAPA”)...

Applicants respectfully traverse the Examiner's rejections. Dependent claims 2-9, 11-19, 21-31, 33-39, and 41-47 depend from independent claims 1, 10, 20, 32, and 40, respectively. Accordingly, the above-articulated arguments related to amended independent claim 1, 10, 20, 32, and 40 apply with equal force to claims 2-9, 11-19, 21-31, 33-39, and 41-47, which are thus allowable over the cited references for at least the same reasons as claims 1, 10, 20, 32, and 40.

Conclusion

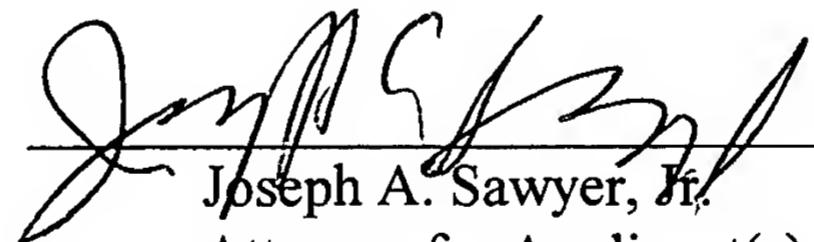
In view of the foregoing, Applicants submit that claims 1-47 are patentable over the cited references. Applicants, therefore, respectfully request reconsideration and allowance of the claims as now presented.

Applicants' attorney believes that this application is in condition for allowance. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

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Date



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